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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/707,206 | 11/26/2003 | Michael A. Gaynes | FR920030002US1 | 1205 |

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IBM MICROELECTRONICS
INTELLECTUAL PROPERTY LAW
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EXAMINER

IM, JUNGHWA M

| ART UNIT | PAPER NUMBER |
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2811

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/707,206

Applicant(s)

GAYNES ET AL.

Examiner

Junghwa M. Im

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 15, 2006 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8 and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Baba (US Pat. 6,313,521).

Regarding claim 1, Fig. 5B of Baba shows a semiconductor package comprising:

a chip carrier [1] including a grounded pad on a first side of said chip carrier (col. 8, lines 17-35);

a semiconductor chip [2] coupled to said first side of said chip carrier;

a conductive lid [13; col. 7, lines 29-31] thermally coupled to said semiconductor chip wherein the entire length of said conductive lid is substantially parallel with said first side of said chip carrier; and

a conductive structure [10; col. 7, lines 18-22] electrically coupled to said grounded pad and to said conductive lid (col. 8, lines 17-35).

Regarding claim 2, Fig. 5B of Baba shows that a solder (11; silver paste; col. 7, lines 18-22) connects said conductive structure and said grounded pad.

Regarding claim 3, Fig. 5B of Baba shows that said conductive structure electrically coupled to said grounded pad with an electrically conductive adhesive material (silver paste; col. 7, lines 18-22 and col. 8, lines 17-35).

Regarding claim 4, Fig. 5B of Baba shows that conductive structure is electrically coupled to said conductive lid with an electrically conductive adhesive material (14; silver paste; col. 8, lines 17-35).

Regarding claim 5, Fig. 5B of Baba shows that said conductive structure is coupled to said chip carrier using an electrically insulative adhesive material (insulating epoxy resin; col. 8, lines 29-35).

Regarding claim 6, Fig. 5B of Baba shows that said conductive structure is coupled to said chip carrier using a thermally conductive adhesive material (11; silver paste; col. 7, lines 18-22).

Regarding claim 8, Fig. 3 of Baba said conductive structure [10] comprises a block.

Regarding claim 22, Fig. 5B of Baba shows an end of said conductive lid extends beyond at least one side of said semiconductor.

Regarding claim 23, Fig. 5B of Baba shows the conductive structure is located on the first side of the chip carrier.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 9-10 and 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Jimarez et al. (US Pat. 6,407,334), hereinafter Jimarez.

Regarding claim 1, Fig. 10 of Jimarez shows a semiconductor package comprising:
a chip carrier [10] including a grounded pad on a first side of said chip carrier (Abstract);
a semiconductor chip [34] coupled to said first side of said chip carrier;
a conductive lid [46] thermally coupled to said semiconductor chip wherein the entire length of said conductive lid is substantially parallel with said first side of said chip carrier;
and
a conductive structure [26, 36] electrically coupled to said grounded pad and to said conductive lid (Abstract).

Regarding claims 9 and 13, Fig. 10 of Jimarez shows said conductive structure comprises a surface mount technology (SMT) discrete component [36; capacitors]

Regarding claim 10, Fig. 10 of Jimarez shows that a solder couples said conductive structure to said grounded pad (col. 2, lines 40-43), an electrically conductive adhesive material [42] couples said conductive structure to said conductive lid; and an electrically insulative adhesive material couples [18; col. 2, lines 14-16]] said conductive structure to the chip carrier.

Regarding claim 12, Fig. 1 of Jimarez said conductive structure [10] comprises a block.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baba in view of Glenn et al. (US 6562655), hereinafter Glenn.

Regarding claim 7, Fig. 5B of Baba shows substantially the entire claimed structure except "said conductive structure comprises a spring." Fig. 6 of Glenn shows a semiconductor with a conductive structure comprising a spring [150]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Glenn into the device of Baba in order to have a conductive structure comprising a spring to secure the conductive lid.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jimarez in view of Glenn.

Regarding claim 7, Fig. 10 of Jimarez shows substantially the entire claimed structure except "said conductive structure comprises a spring." Fig. 6 of Glenn shows a semiconductor with a conductive structure comprising a spring [150]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Glenn into the device of Jimarez in order to have a conductive structure comprising a spring to secure the conductive lid.

Response to Arguments

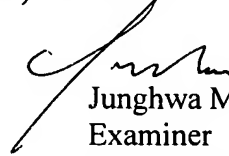
Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junghwa M. Im whose telephone number is (571) 272-1655. The examiner can normally be reached on MON.-FRI. 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Junghwa M. Im
Examiner
Art Unit 2811

jmi
12/10/2006